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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/909,958	07/23/2001	Christopher Wai-Ming Choi	13201.00046	3063

27160 7590 08/28/2003

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EXAMINER

LEE, DOUGLAS S

ART UNIT PAPER NUMBER

2125

DATE MAILED: 08/28/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/909,958

Applicant(s)

CHOI ET AL.

Examiner

Douglas S Lee

Art Unit

2125

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 June 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 17-41 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 17-41 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. The examiner has noted that the applicant has submitted a voluntary Terminal Disclaimer with respect to the U.S. Patent No. 6,289,259.
2. Applicant's arguments, see pages 1-16 filed 6/11/03, with respect to the rejection(s) of claim(s) 17-31 under 35 U.S.C. 112 and 102 as being unpatentable over Arai (EP Application #0644030A2) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made Arai in view of Louwagie et al. (US Pat. #5,899,962).

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

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3. Claims 17-41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Arai (EP Application #0644030A2) in view of Louwagie et al. (US Pat. #5,899,962).

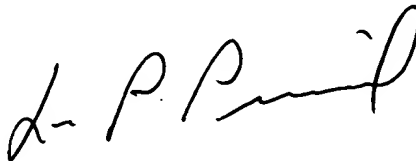
The sole difference between claims 17-41 and Arai is a system control processor and microcontroller disposed adjacent the manifold or the valves. The applicant argues that such arrangements allow the manifold and valves to be controlled locally to minimize wiring and to prevent processing bottlenecks in the system controller. The applicant further argues that the manifold and valves are located in areas of high thermal and vibration stresses, it would not have been obvious to locate the microcontroller in such a harsh environment. However, Louwagie et al. disclose a transmitter including electronics module having a microcontroller and sensor module having a microcontroller disposed adjacent the manifold or valves so that sensor measurements from remote location are immediately converted into an electrical signal (see col. 1, lines 55-65; col.2, lines 30-35; col.4, lines 40-45; col.6, lines 5-15; col. 12, lines 23-30). The electrical signal can be compensated at the remote location whereby the signal provided to the transmitter has a high level of accuracy. Therefore, it would have been obvious to one skilled in the art to modify the control processor of Arai with the transmitter having dual microprocessors of Louwagie et al. to minimize wiring and to prevent processing bottlenecks in the system controller.

Conclusion

1. Any inquiry concerning this communication or earlier communications from the examiner should be directed to examiner Douglas Lee, whose telephone number is (703) 305-6907. The examiner can normally be reached on Monday-Friday from 8:00AM- 4:30PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, *Leo Picard*, can be reached on (703) 308-0538 or via e-mail addressed to [*leo.picard@uspto.gov*]. The fax number for this Group is (703) 308-5358. Communications via Internet e-mail regarding this application, other than those under 35 U.S.C. 132 or which otherwise require a signature, may be used by the applicant and should be addressed to [*doug.lee@uspto.gov*]. All Internet e-mail communications will be made of record in the application file. PTO employees do not engage in Internet communications where there exists a possibility that sensitive information could be identified or exchanged unless the record includes a properly signed express waiver of the confidentiality requirements of 35 U.S.C. 122. This is more clearly set forth in the Interim Internet Usage Policy published in the Official Gazette of the Patent and Trademark on February 25, 1997 at 1195 OG 89. Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 306-5631.

Douglas Lee


8/19/2003



LEO PICARD
SUPERVISORY PATENT EXAMINER
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